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FULL ESTIMATED COST                                     2.94       2.94

FILE 'REGISTRY' ENTERED AT 09:00:30 ON 12 JUL 2002
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STRUCTURE FILE UPDATES:   10 JUL 2002  HIGHEST RN 438186-75-5
DICTIONARY FILE UPDATES:  10 JUL 2002  HIGHEST RN 438186-75-5

TSCA INFORMATION NOW CURRENT THROUGH January 7, 2002

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Calculated physical property data is now available.  See HELP PROPERTIES
for more information.  See STNote 27, Searching Properties in the CAS
Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

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name for an L# list must end with '/L'.  SDI request names must end
with '/S'.  To see a list of all saved query, answer set,, and L# list
names for this loginid, enter "DISPLAY SAVED" at an arrow
prompt (=>).  Enter "DISPLAY SAVED/S" to see a list of SDI request
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Searched by: Mary Hale 308-4258 CM-1 1E01
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L2 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2002 ACS
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OTHER NAMES:
CN 8: PN: WO0112668 SEQID: 8 claimed protein
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FS PROTEIN SEQUENCE; STEREOSEARCH
SQL **18**

SEQ 1 KNLRRIIRKI IHIIKKYG
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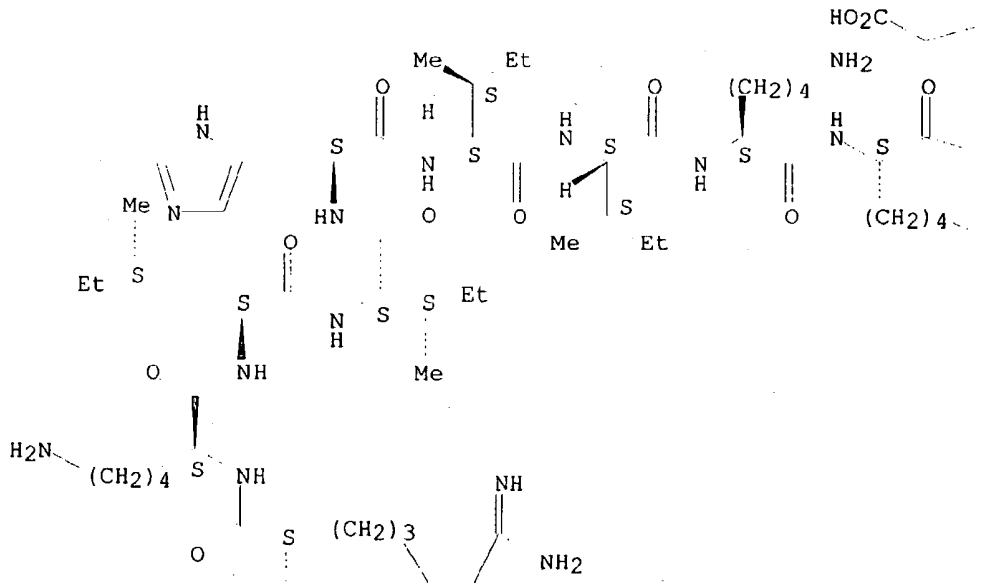
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



Searched by: Mary Hale 308-4258 CM-1 1E01

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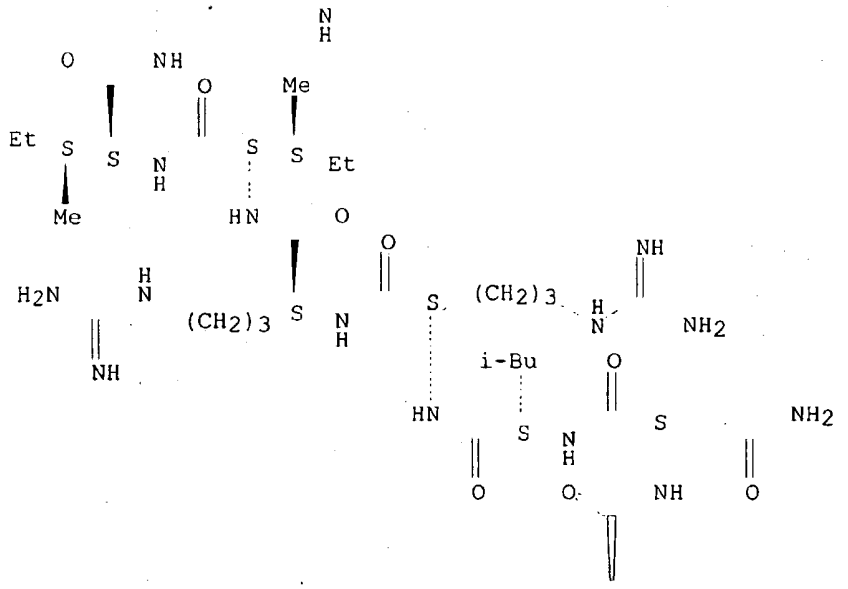

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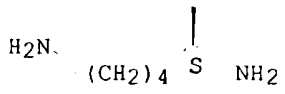

5 REFERENCES IN FILE CA (1967 TO DATE)
5 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:82518 Congeners of SMAP29 kill ovine pathogens and induce ultrastructural damage in bacterial cells. Kalfa, V. C.; Jia, H. P.; Kunkle, R. A.; McCray, P. B., Jr.; Tack, B. F.; Brogden, K. A. (Respiratory Diseases of Livestock Research Unit, National Animal Disease Center, USDA Agricultural Research Service, Ames, IA, 50010, USA). Antimicrobial Agents and Chemotherapy, 45(11), 3256-3261 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for

Searched by: Mary Hale 308-4258 CM-1 1E01

Microbiology.

AB SMAP29, an ovine cathelicidin, was systematically altered to create a family of 23 related peptides for MIC and min. bactericidal concn. detns. SMAP28, SMAP29, and a deriv. of SMAP29 called ovispirin were all antimicrobial. However, many congeners of SMAP29 and ovispirin were not as active as the parent mols. With immunoelectron microscopy, SMAP29 was seen on membranes and within the cytoplasm of Pseudomonas aeruginosa PAO1.

REFERENCE 2: 136:74662 Pharmaceutical composition comprising novispirin. Lehrer, Robert I.; Waring, Alan J.; Tack, Brian F. (The Regents of the University of California, USA; The University of Iowa). PCT Int. Appl. WO 2002000839 A2 20020103, 42 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US19094 20010613. PRIORITY: US 2000-606858 20000628; US 2001-840009 20010419.

AB Novisprin peptides are antimicrobial agents with potent activity against Gram-neg. bacteria. The peptides are nonhemolytic, exhibit reduced in vitro cytotoxicity relative to other antimicrobial peptides, and were well-tolerated in vivo after i.v. injection. Novispirins also bind lipopolysaccharide (LPS), a property that may mitigate symptoms assocd. with Gram-neg. bacterial infection. A pharmaceutical compn. comprising novispirin as an active agent is administered to a patient suffering from or predisposed to a microbial infection, particularly Gram-neg. bacterial infections.

REFERENCE 3: 136:50035 Orientation and dynamics of an antimicrobial peptide in the lipid bilayer by solid-state NMR spectroscopy. Yamaguchi, Satoru; Huster, Daniel; Waring, Alan; Lehrer, Robert I.; Kearney, William; Tack, Brian F.; Hong, Mei (Department of Chemistry, Iowa State University, Ames, IA, 500112, USA). Biophysical Journal, 81(4), 2203-2214 (English) 2001. CODEN: BIOJAU. ISSN: 0006-3495. Publisher: Biophysical Society.

AB The orientation and dynamics of an 18-residue antimicrobial peptide, ovispirin, has been investigated using solid-state NMR spectroscopy. Ovispirin is a cathelicidin-like model peptide (NH2-KNLRRIIRKIIHIIKKYG-COOH) with potent, broad-spectrum bactericidal activity. 15N NMR spectra of oriented ovispirin reconstituted into synthetic phospholipids show that the helical peptide is predominantly oriented in the plane of the lipid bilayer, except for a small portion of the helix, possibly at the C-terminus, which deviates from the surface orientation. This suggests differential insertion of the peptide backbone into the lipid bilayer. 15N spectra of both oriented and unoriented peptides show a reduced 15N chem. shift anisotropy at room temp. compared with that of rigid proteins, indicating that the peptide undergoes uniaxial rotational diffusion around the bilayer normal with correlation times shorter than 10-4 s. This motion is frozen below the gel-to-liq. cryst. transition temp. of the lipids. Ovispirin interacts strongly with the lipid bilayer, as manifested by the significantly reduced 2H quadrupolar splittings of perdeuterated palmitoyloleoylphosphatidylcholine acyl chains upon peptide binding. Therefore, ovispirin is a curved helix residing in the membrane-water interface that executes rapid uniaxial rotation. These structural and dynamic features are important for understanding the antimicrobial function of this peptide.

REFERENCE 4: 136:2776 Cathelicidin peptides inhibit multiply antibiotic-resistant pathogens from patients with cystic fibrosis. Saiman, Lisa; Tabibi, Setareh; Starner, Timothy D.; San Gabriel, Pablo;

Winokur, Patricia L.; Jia, Hong Peng; McCray, Paul B., Jr.; Tack, Brian F. (Department of Pediatrics, Columbia University, New York, NY, 10032, USA). Antimicrobial Agents and Chemotherapy, 45(10), 2838-2844 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

AB Endogenous peptide antibiotics are under investigation as inhaled therapeutic agents for cystic fibrosis (CF) lung disease. The bactericidal activities of five cathelicidin peptides (LL37 [human], CAP18 [rabbit], mCRAMP [mouse], rCRAMP [rat], and SMAP29 [sheep]), three novel alpha-helical peptides derived from SMAP29 and termed ovispirins (OV-1, OV-2, and OV-3), and two derivs. of CAP18 were tested by broth microdilution assays. Their MICs were detd. for multiply antibiotic-resistant Pseudomonas aeruginosa (n = 24), Burkholderia cepacia (n = 5), Achromobacter xylosoxidans (n = 5), and Stenotrophomonas maltophilia (n = 5) strains isolated from CF patients. SMAP29 was most active and inhibited mucoid and nonmucoid P. aeruginosa strains (MIC, 0.06 to 8 .mu.g/mL). OV-1, OV-2, and OV-3 were nearly as active (MIC, 0.03 to 16 .mu.g/mL), but CAP18 (MIC, 1.0 to 32 .mu.g/mL), CAP18-18 (MIC, 1.0 to >32 .mu.g/mL), and CAP18-22 (MIC, 0.5 to 32 .mu.g/mL) had variable activities. LL37, mCRAMP, and rCRAMP were least active against the clin. isolates studied (MIC, 1.0 to >32 .mu.g/mL). Peptides had modest activities against S. maltophilia and A. xylosoxidans (MIC range, 1.0 to > 32 .mu.g/mL), but none inhibited B. cepacia. However, CF sputum inhibited the activity of SMAP29 substantially. The effects of peptides on bacterial cell membranes and eukaryotic cells were examd. by SEM and by measuring transepithelial cell resistance, resp. SMAP29 caused the appearance of bacterial membrane blebs within 1 min, killed P. aeruginosa within 1 h, and caused a dose-dependent, reversible decrease in transepithelial resistance within 5 h. The tested cathelicidin-derived peptides represent a novel class of antimicrobial agents and warrant further development as prophylactic or therapeutic agents for CF lung disease.

REFERENCE 5: 134:188181 Cathelicidin-derived peptides with broad spectrum antimicrobial activity. Tack, Brian E.; McCray, Paul; Welsh, Michael; Travis, Sue M.; Lehrer, Robert (University of Iowa Research Foundation, USA; The Regents of the University of California). PCT Int. Appl. WO 2001012668 A1 20010222, 137 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US22781 20000818. PRIORITY: US 1999-PV149886 19990818.

AB The invention relates to the use of antimicrobial peptides in the inhibition of microbial growth and proliferation. Antimicrobial truncated peptides are disclosed which are based on SMAP 29 and RCAP 18, but which contain a lesser no. of amino acid residues yet still retain bactericidal activity. In addn., synthetic peptides based upon the SMAP 29 protein are disclosed which have fewer amino acid residues and include substitutions yet retain substantial activity. The invention also relates to a method of inhibiting microbial growth by administering an effective amt. of a peptide in accordance with the invention, or by combining the peptides with other antimicrobial agents or antibiotics.

L2 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2002 ACS

RN 326855-39-4 REGISTRY

CN Glycinamide, L-lysyl-L-asparaginyl-L-leucyl-L-arginyl-L-arginyl-L-isoleucyl-L-isoleucyl-L-arginyl-L-lysyl-L-isoleucyl-L-isoleucyl-L-histidyl-

Searched by: Mary Hale 308-4258 CM-1 1E01

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OTHER NAMES:
CN 1: PN: WO0112668 SEQID: 1 claimed protein
CN Ovispirin OV 3
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL **18**
NTE modified

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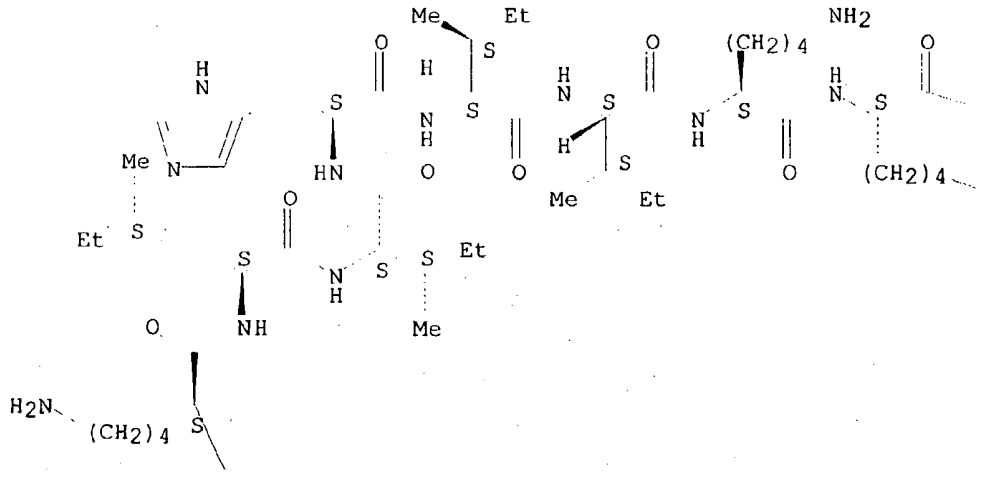

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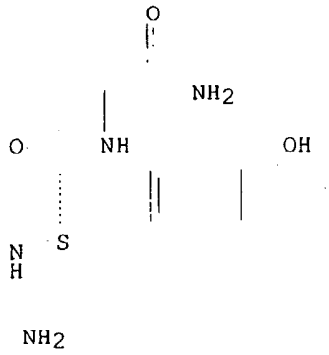

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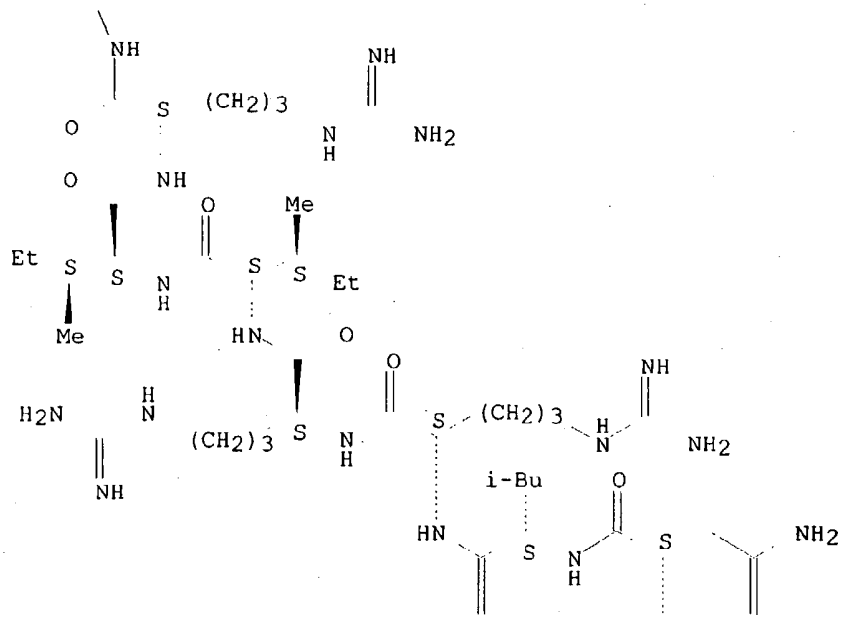

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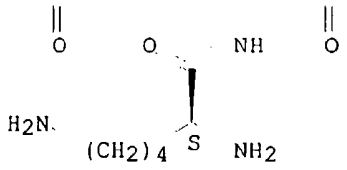

3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:82518 Congeners of SMAP29 kill ovine pathogens and induce

Searched by: Mary Hale 308-4258 CM-1 1E01

ultrastructural damage in bacterial cells. Kalfa, V. C.; Jia, H. P.; Kunkle, R. A.; McCray, P. B., Jr.; Tack, B. F.; Brogden, K. A. (Respiratory Diseases of Livestock Research Unit, National Animal Disease Center, USDA Agricultural Research Service, Ames, IA, 50010, USA). Antimicrobial Agents and Chemotherapy, 45(11), 3256-3261 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

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Searched by: Mary Hale 308-4258 CM-1 1E01

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FS   PROTEIN SEQUENCE; STEREOSEARCH
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Absolute stereochemistry.
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Searched by: Mary Hale 308-4258 CM-1 1E01

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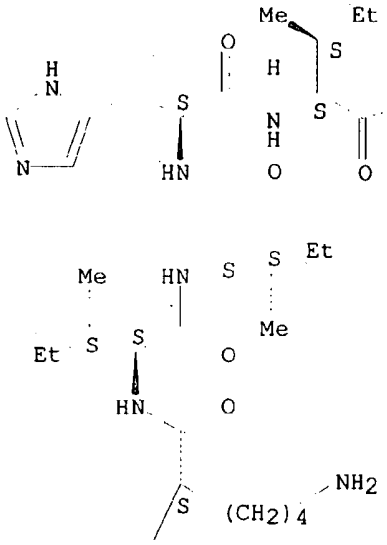

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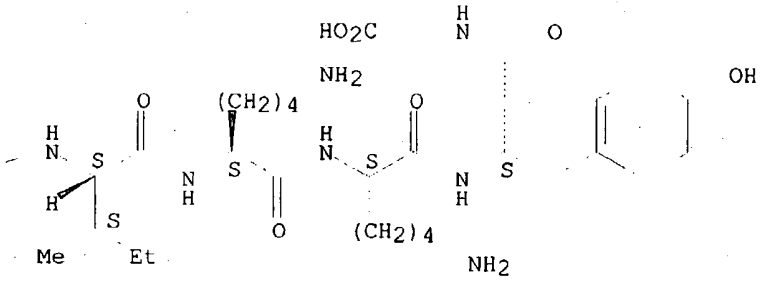

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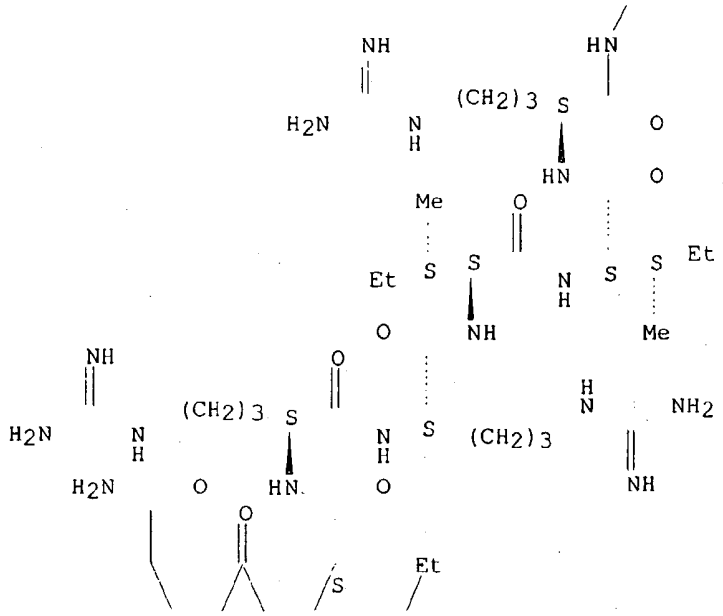

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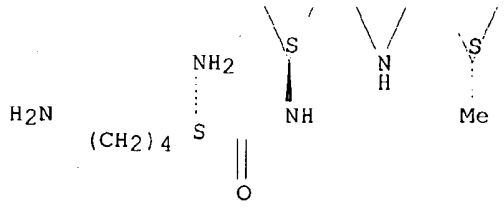

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:82518 Congeners of SMAP29 kill ovine pathogens and induce ultrastructural damage in bacterial cells. Kalfa, V. C.; Jia, H. P.; Kunkle, R. A.; McCray, P. B., Jr.; Tack, B. F.; Brogden, K. A. (Respiratory Diseases of Livestock Research Unit, National Animal Disease Center, USDA Agricultural Research Service, Ames, IA, 50010, USA). Antimicrobial Agents and Chemotherapy, 45(11), 3256-3261 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

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Searched by: Mary Hale 308-4258 CM-1 1E01

L3 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2002 ACS
RN 326855-43-0 REGISTRY
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OTHER NAMES:
CN 6: PN: WO0112668 SEQID: 6 claimed protein
CN Ovispirin OV 4
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 18
NTE modified

type	------ location ------		description
terminal mod.	Gly-18	-	C-terminal amide

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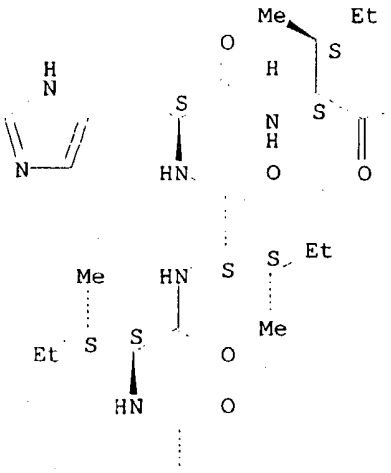
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



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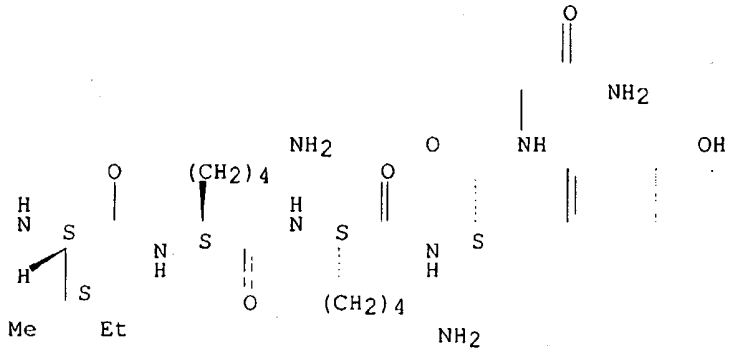

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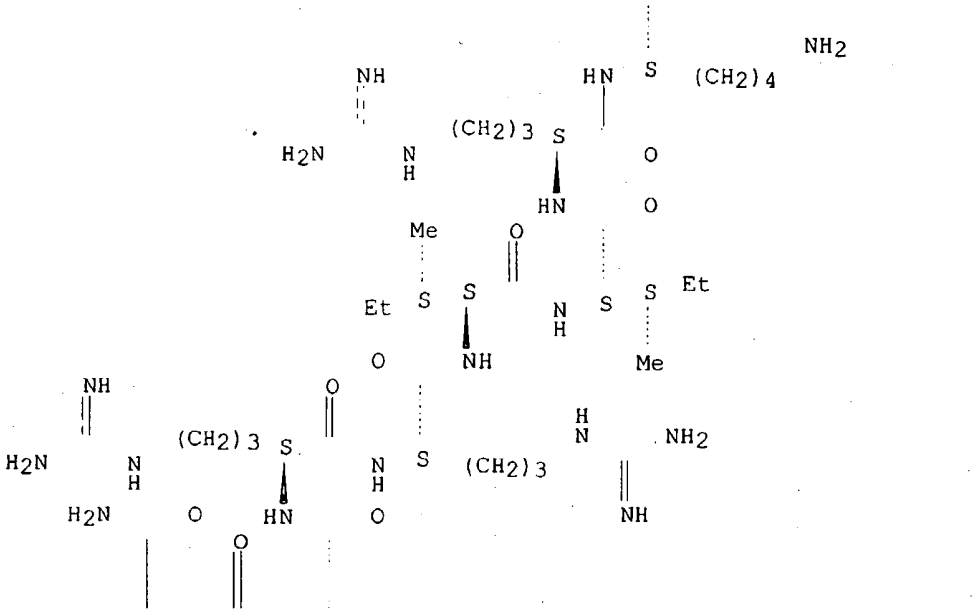

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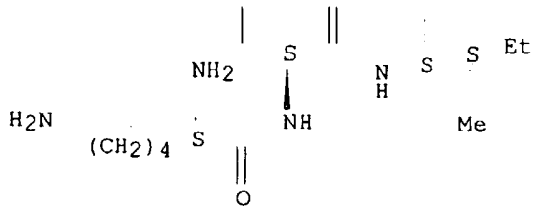

2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Searched by: Mary Hale 308-4258 CM-1 1E01

REFERENCE 1: 136:82518 Congeners of SMAP29 kill ovine pathogens and induce ultrastructural damage in bacterial cells. Kalfa, V. C.; Jia, H. P.; Kunkle, R. A.; McCray, P. B., Jr.; Tack, B. F.; Brogden, K. A. (Respiratory Diseases of Livestock Research Unit, National Animal Disease Center, USDA Agricultural Research Service, Ames, IA, 50010, USA). Antimicrobial Agents and Chemotherapy, 45(11), 3256-3261 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

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REFERENCE 2: 134:188181 Cathelicidin-derived peptides with broad spectrum antimicrobial activity. Tack, Brian E.; McCray, Paul; Welsh, Michael; Travis, Sue M.; Lehrer, Robert (University of Iowa Research Foundation, USA; The Regents of the University of California). PCT Int. Appl. WO 2001012668 A1 20010222, 137 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US22781 20000818. PRIORITY: US 1999-PV149886 19990818.

AB The invention relates to the use of antimicrobial peptides in the inhibition of microbial growth and proliferation. Antimicrobial truncated peptides are disclosed which are based on SMAP 29 and RCAP 18, but which contain a lesser no. of amino acid residues yet still retain bactericidal activity. In addn., synthetic peptides based upon the SMAP 29 protein are disclosed which have fewer amino acid residues and include substitutions yet retain substantial activity. The invention also relates to a method of inhibiting microbial growth by administering an effective amt. of a peptide in accordance with the invention, or by combining the peptides with other antimicrobial agents or antibiotics.

```
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E2          1      NLRRGTALAIPQCRL/SQEP
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E4          1      NLRRLLLSHI/SQEP
E5          1      NLRRLLLSMI/SQEP
E6          1      NLRSAIPWVGQDIVEFIWGGFSVNNATLNRFFALHFVLPFVLAALALMHLIALHDSSGSG
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E8          1      NLRSFIHKV/SQEP
E9          1      NLRSFY/SQEP
E10         1      NLRSPNNFL/SQEP
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=> s e3;d sqide cbib abs 1-2;e lrriirkiihiikk/sqep
            2 NLRRIIRKIIHIIKKY/SQEP
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Searched by: Mary Hale 308-4258 CM-1 1E01

29730 SQL=16
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L4 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2002 ACS
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FS PROTEIN SEQUENCE; STEREOSEARCH
SQL **16**
NTE modified

type	------ location ------	description
terminal mod.	Tyr-16 -	C-terminal amide

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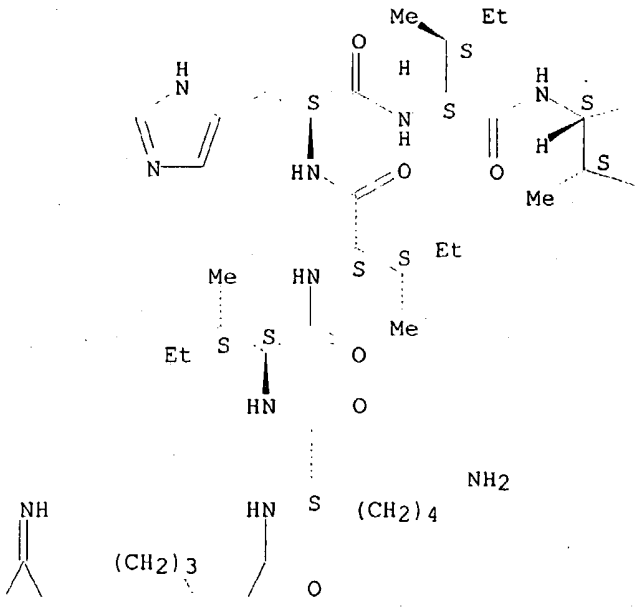
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



Searched by: Mary Hale 308-4258 CM-1 1E01

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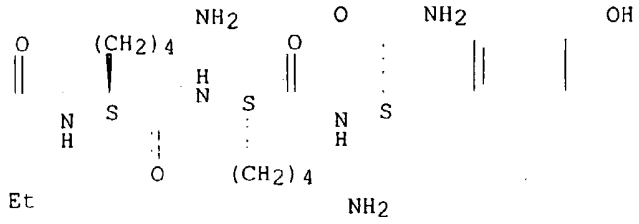

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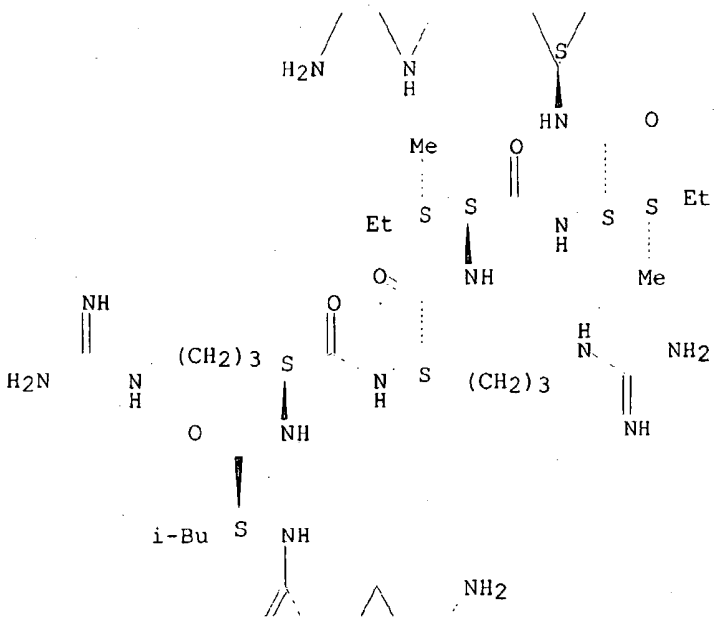

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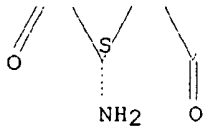

1 REFERENCES IN FILE CA (1967 TO DATE)
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Searched by: Mary Hale 308-4258 CM-1 1E01

KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US22781 20000818. PRIORITY: US 1999-PV149886 19990818.

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L4 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2002 ACS
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OTHER NAMES:
CN 9: PN: WO0112668 SEQID: 9 claimed protein
CN Ovispirin OV 6
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL **16**

SEQ 1 NLRRIIRKII HIIKKY
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HITS AT: 1-16
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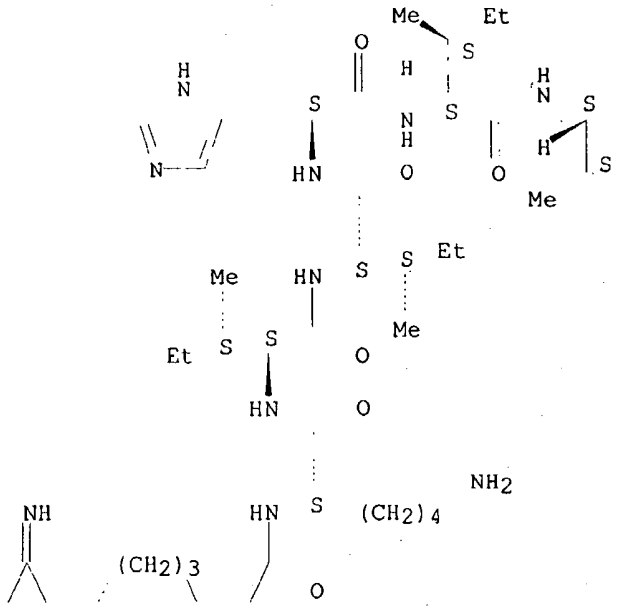
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Searched by: Mary Hale 308-4258 CM-1 1E01

PAGE 1-A



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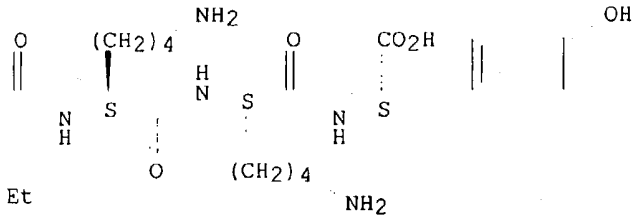

Searched by: Mary Hale 308-4258 CM-1 1E01

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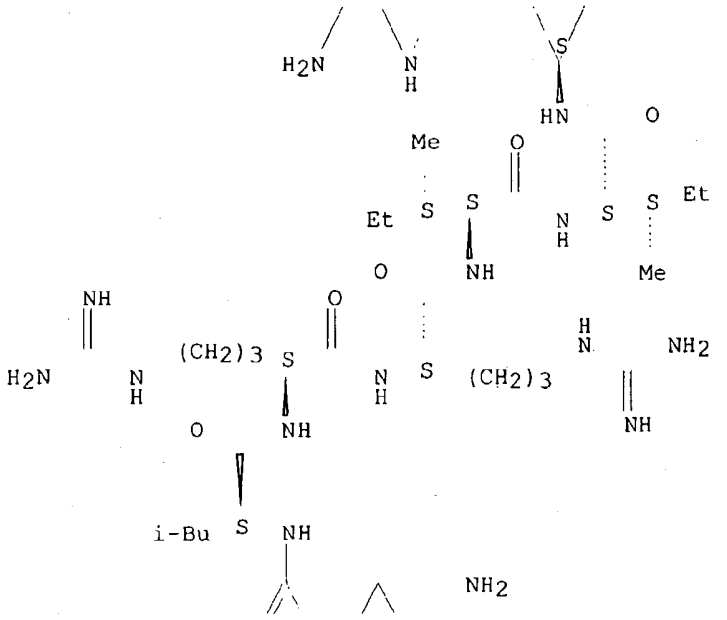
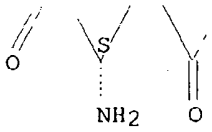


PAGE 3-A



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Searched by: Mary Hale 308-4258 CM-1 1E01

EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US22781 20000818. PRIORITY: US 1999-PV149886 19990818.

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```
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E2          1      LRRIIRKIIHIIK/SQEP
E3          2 --> LRRIIRKIIHIIKK/SQEP
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E5          1      LRRILRGCAQRFIFEEVAPDQYAHTDASKMLRVTGIHALVGFSCDEVMRSAAYFSNFLQQ
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     (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN  15: PN: WO0112668 SEQID: 15 claimed protein
CN  Ovispirin OV 11
FS  PROTEIN SEQUENCE; STEREOSEARCH
SQL 13
NTE modified
----------------------------------------------------------------------
 type            ------ location ------         description

Searched by: Mary Hale 308-4258 CM-1 1E01
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terminal mod. Lys-13 - C-terminal amide

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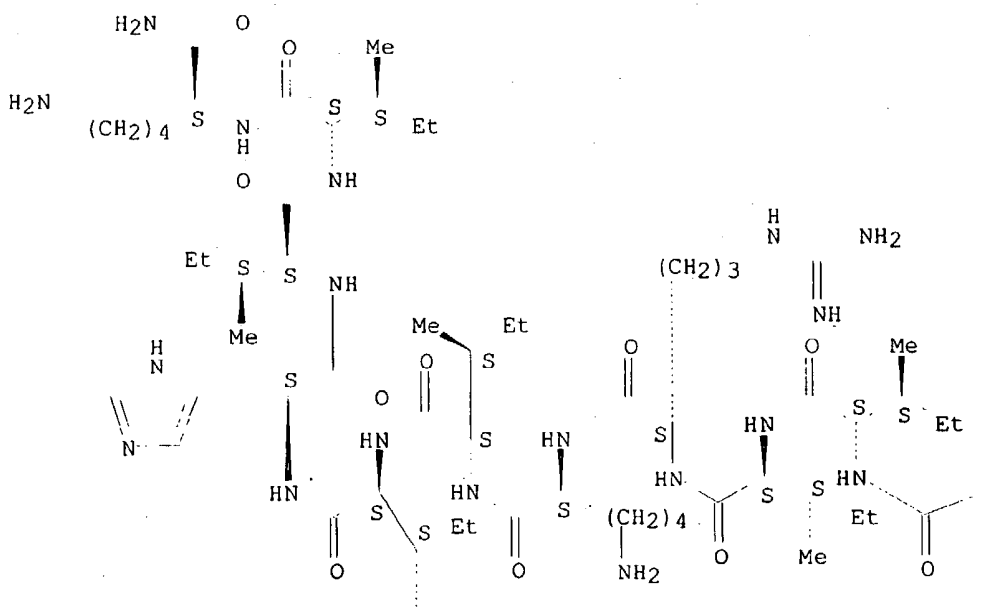
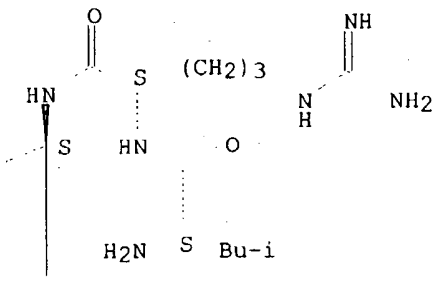
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



Searched by: Mary Hale 308-4258 CM-1 1E01

PAGE 1-B



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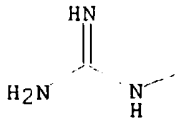

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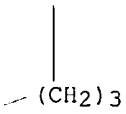

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Searched by: Mary Hale 308-4258 CM-1 1E01

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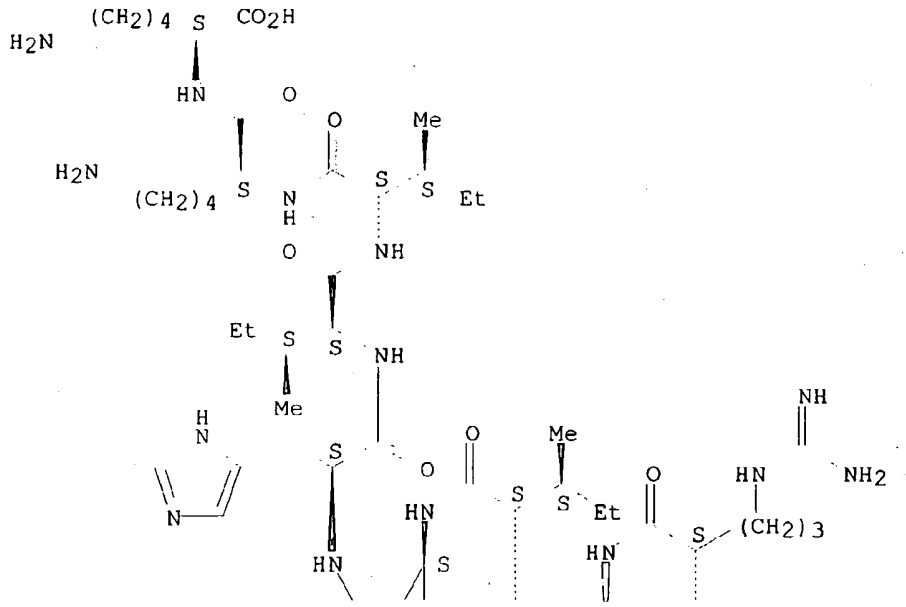
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



Searched by: Mary Hale 308-4258 CM-1 1E01

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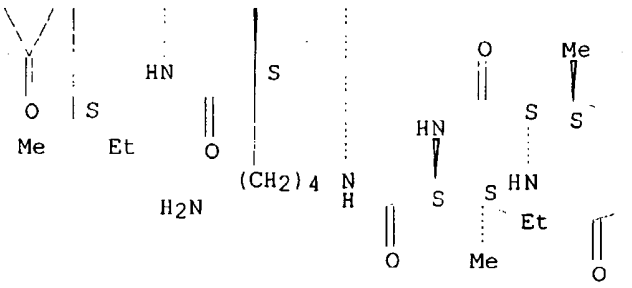

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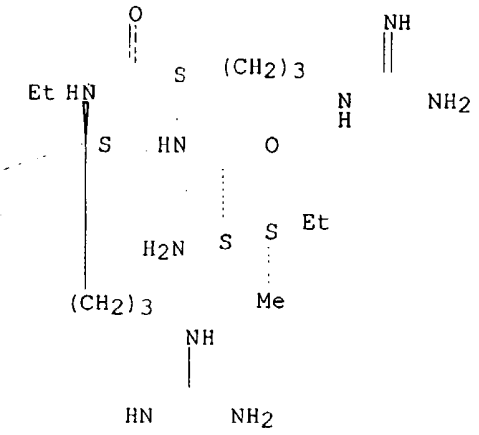

2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

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REFERENCE 2: 134:188181 Cathelicidin-derived peptides with broad spectrum antimicrobial activity. Tack, Brian E.; McCray, Paul; Welsh, Michael; Travis, Sue M.; Lehrer, Robert (University of Iowa Research Foundation, USA; The Regents of the University of California). PCT Int. Appl. WO 2001012668 A1 20010222, 137 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ,

Searched by: Mary Hale 308-4258 CM-1 1E01

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AB The invention relates to the use of antimicrobial peptides in the inhibition of microbial growth and proliferation. Antimicrobial truncated peptides are disclosed which are based on SMAP 29 and RCAP 18, but which contain a lesser no. of amino acid residues yet still retain bactericidal activity. In addn., synthetic peptides based upon the SMAP 29 protein are disclosed which have fewer amino acid residues and include substitutions yet retain substantial activity. The invention also relates to a method of inhibiting microbial growth by administering an effective amt. of a peptide in accordance with the invention, or by combining the peptides with other antimicrobial agents or antibiotics.

L6 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2002 ACS
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OTHER NAMES:
CN 13: PN: WO0112668 SEQID: 13 claimed protein
CN Ovispirin OV 9
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 14
NTE modified

type	------ location ------		description
terminal mod.	Lys-14	-	C-terminal amide

SEQ 1 IRRIIRKIIH IIKK
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HITS AT: 1-14
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SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Searched by: Mary Hale 308-4258 CM-1 1E01

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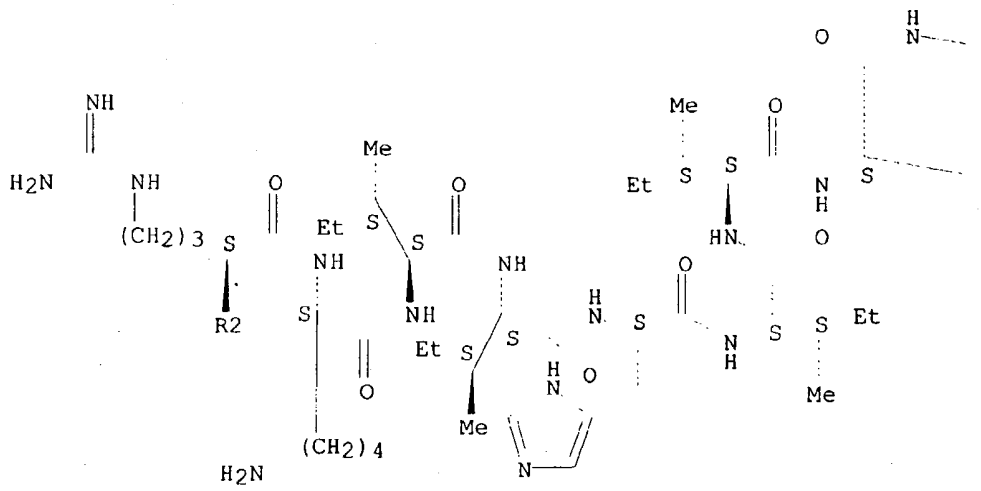

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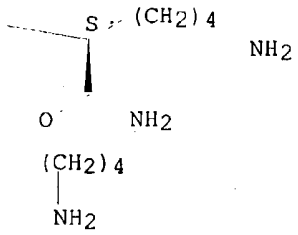

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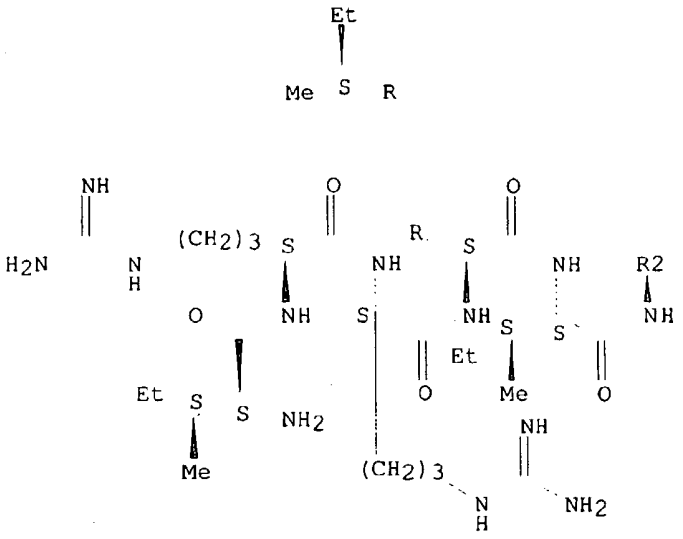

3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:82518 Congeners of SMAP29 kill ovine pathogens and induce ultrastructural damage in bacterial cells. Kalfa, V. C.; Jia, H. P.; Kunkle, R. A.; McCray, P. B., Jr.; Tack, B. F.; Brogden, K. A. (Respiratory Diseases of Livestock Research Unit, National Animal Disease Center, USDA Agricultural Research Service, Ames, IA, 50010, USA). Antimicrobial Agents and Chemotherapy, 45(11), 3256-3261 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

AB SMAP29, an ovine cathelicidin, was systematically altered to create a family of 23 related peptides for MIC and min. bactericidal concn. detns. SMAP28, SMAP29, and a deriv. of SMAP29 called ovispirin were all antimicrobial. However, many congeners of SMAP29 and ovispirin were not as active as the parent mols. With immunoelectron microscopy, SMAP29 was seen on membranes and within the cytoplasm of Pseudomonas aeruginosa PAO1.

REFERENCE 2: 136:2776 Cathelicidin peptides inhibit multiply antibiotic-resistant pathogens from patients with cystic fibrosis. Saiman, Lisa; Tabibi, Setareh; Starner, Timothy D.; San Gabriel, Pablo; Winokur, Patricia L.; Jia, Hong Peng; McCray, Paul B., Jr.; Tack, Brian F. (Department of Pediatrics, Columbia University, New York, NY, 10032, USA). Antimicrobial Agents and Chemotherapy, 45(10), 2838-2844 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

AB Endogenous peptide antibiotics are under investigation as inhaled therapeutic agents for cystic fibrosis (CF) lung disease. The bactericidal activities of five cathelicidin peptides (LL37 [human], CAP18 [rabbit], mCRAMP [mouse], rCRAMP [rat], and SMAP29 [sheep]), three novel alpha-helical peptides derived from SMAP29 and termed ovispirins (OV-1, OV-2, and OV-3), and two derivs. of CAP18 were tested by broth microdilution assays. Their MICs were detd. for multiply antibiotic-resistant Pseudomonas aeruginosa (n = 24), Burkholderia cepacia (n = 5), Achromobacter xylosoxidans (n = 5), and Stenotrophomonas maltophilia (n = 5) strains isolated from CF patients. SMAP29 was most active and inhibited mucoid and nonmucoid P. aeruginosa strains (MIC, 0.06

to 8 .mu.g/mL). OV-1, OV-2, and OV-3 were nearly as active (MIC, 0.03 to 16 .mu.g/mL), but CAP18 (MIC, 1.0 to 32 .mu.g/mL), CAP18-18 (MIC, 1.0 to >32 .mu.g/mL), and CAP18-22 (MIC, 0.5 to 32 .mu.g/mL) had variable activities. LL37, mCRAMP, and rCRAMP were least active against the clin. isolates studied (MIC, 1.0 to >32 .mu.g/mL). Peptides had modest activities against S. maltophilia and A. xylosoxidans (MIC range, 1.0 to > 32 .mu.g/mL), but none inhibited B. cepacia. However, CF sputum inhibited the activity of SMAP29 substantially. The effects of peptides on bacterial cell membranes and eukaryotic cells were examd. by SEM and by measuring transepithelial cell resistance, resp. SMAP29 caused the appearance of bacterial membrane blebs within 1 min, killed P. aeruginosa within 1 h, and caused a dose-dependent, reversible decrease in transepithelial resistance within 5 h. The tested cathelicidin-derived peptides represent a novel class of antimicrobial agents and warrant further development as prophylactic or therapeutic agents for CF lung disease.

REFERENCE 3: 134:188181 Cathelicidin-derived peptides with broad spectrum antimicrobial activity. Tack, Brian E.; McCray, Paul; Welsh, Michael; Travis, Sue M.; Lehrer, Robert (University of Iowa Research Foundation, USA; The Regents of the University of California). PCT Int. Appl. WO 2001012668 A1 20010222, 137 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US22781 20000818. PRIORITY: US 1999-PV149886 19990818.

AB The invention relates to the use of antimicrobial peptides in the inhibition of microbial growth and proliferation. Antimicrobial truncated peptides are disclosed which are based on SMAP 29 and RCAP 18, but which contain a lesser no. of amino acid residues yet still retain bactericidal activity. In addn., synthetic peptides based upon the SMAP 29 protein are disclosed which have fewer amino acid residues and include substitutions yet retain substantial activity. The invention also relates to a method of inhibiting microbial growth by administering an effective amt. of a peptide in accordance with the invention, or by combining the peptides with other antimicrobial agents or antibiotics.

E1	1		LRRIGDE/SQEP
E2	1		LRRIGDELD/SQEP
E3	1	-->	LRRIIRKIIHIIK/SQEP
E4	2		LRRIIRKIIHIIKK/SQEP
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E10	1		LRRILRGCAQRFIFEEVAPDQYAHTDASKMLRVTGIHALVGFSCDEVMRSGAYFSDFLQQ TKGKPPSWNVPSPFSLAFDPTKGL/SQEP
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Searched by: Mary Hale 308-4258 CM-1 1E01

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      (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   15: PN: WO0112668 SEQID: 15 claimed protein
CN   Ovispirin OV 11
FS   PROTEIN SEQUENCE; STEREOSEARCH
SQL  13
NTE  modified
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 type             ------ location ------         description
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terminal mod.     Lys-13          -         C-terminal amide
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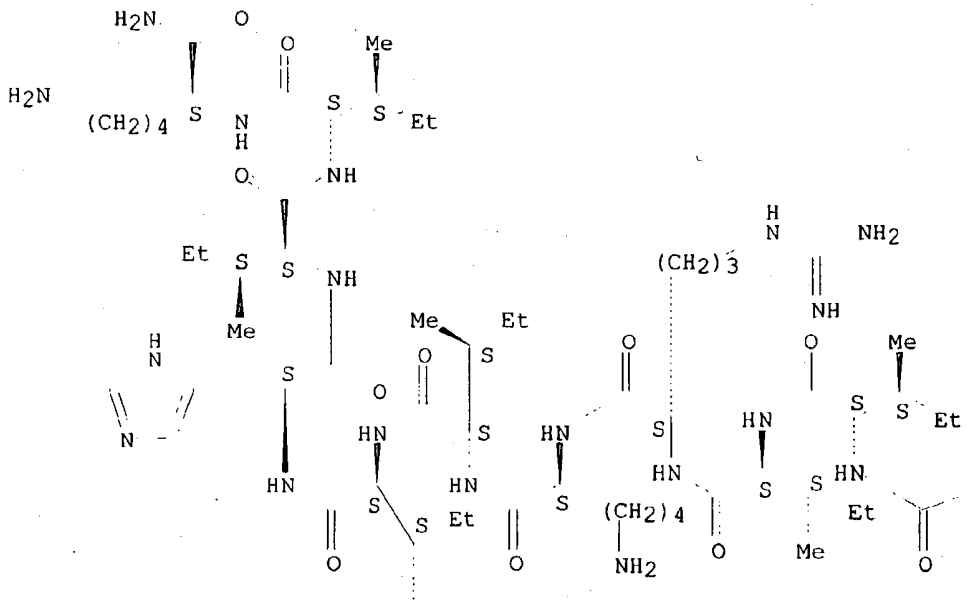

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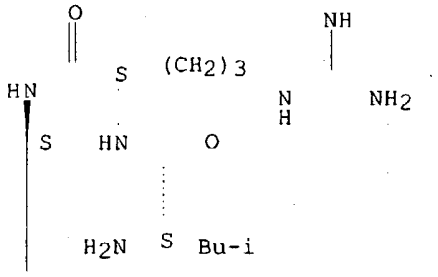

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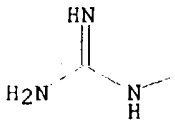

PAGE 2-B

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E2          1      RRIIRKIIHII/SQEP
E3          1 --> RRIIRKIIHIIK/SQEP
E4          1      RRIIRKIIHIIKK/SQEP
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Searched by: Mary Hale 308-4258 CM-1 1E01

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FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 12
NTE modified

type	------ location ------		description
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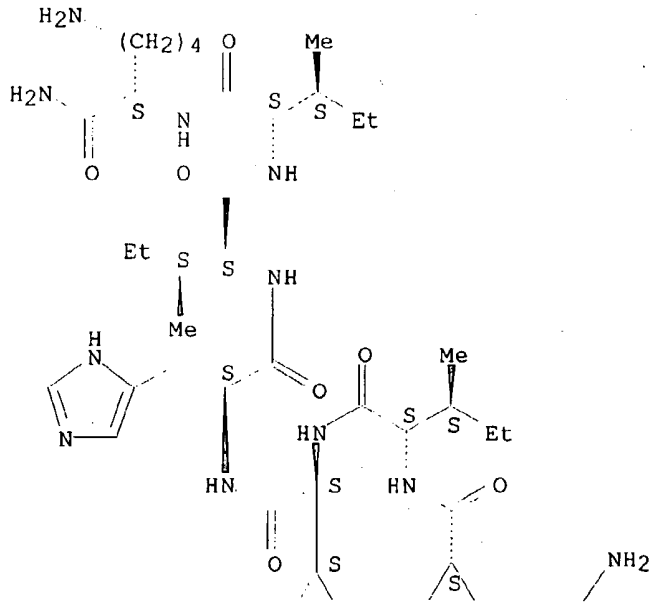

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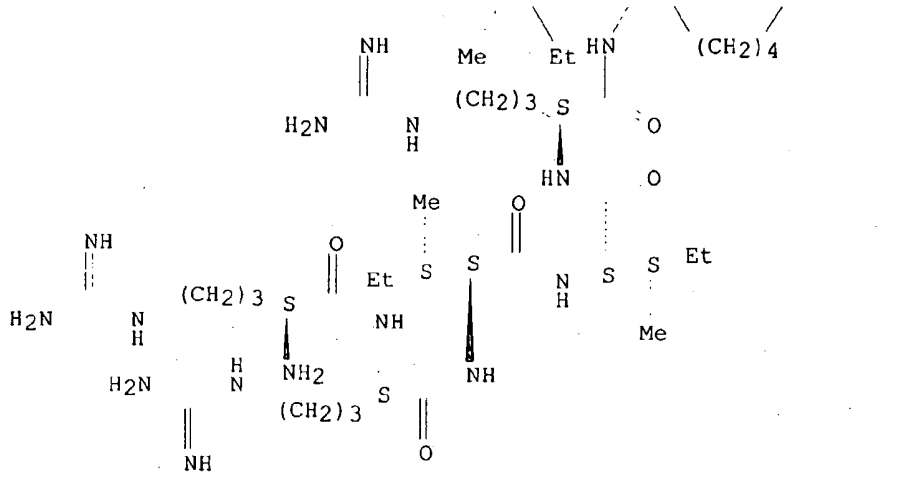

2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:82518 Congeners of SMAP29 kill ovine pathogens and induce ultrastructural damage in bacterial cells. Kalfa, V. C.; Jia, H. P.; Kunkle, R. A.; McCray, P. B., Jr.; Tack, B. F.; Brogden, K. A. (Respiratory Diseases of Livestock Research Unit, National Animal Disease Center, USDA Agricultural Research Service, Ames, IA, 50010, USA). Antimicrobial Agents and Chemotherapy, 45(11), 3256-3261 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

AB SMAP29, an ovine cathelicidin, was systematically altered to create a family of 23 related peptides for MIC and min. bactericidal concn. detns. SMAP28, SMAP29, and a deriv. of SMAP29 called ovispirin were all antimicrobial. However, many congeners of SMAP29 and ovispirin were not as active as the parent mols. With immunoelectron microscopy, SMAP29 was seen on membranes and within the cytoplasm of Pseudomonas aeruginosa PAO1.

REFERENCE 2: 134:188181 Cathelicidin-derived peptides with broad spectrum antimicrobial activity. Tack, Brian E.; McCray, Paul; Welsh, Michael; Travis, Sue M.; Lehrer, Robert (University of Iowa Research Foundation, USA; The Regents of the University of California). PCT Int. Appl. WO 2001012668 A1 20010222, 137 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US22781 20000818. PRIORITY: US 1999-PV149886 19990818.

AB The invention relates to the use of antimicrobial peptides in the inhibition of microbial growth and proliferation. Antimicrobial truncated peptides are disclosed which are based on SMAP 29 and RCAP 18, but which contain a lesser no. of amino acid residues yet still retain bactericidal activity. In addn., synthetic peptides based upon the SMAP 29 protein are disclosed which have fewer amino acid residues and include substitutions yet retain substantial activity. The invention also relates to a method of inhibiting microbial growth by administering an effective amt. of a

peptide in accordance with the invention, or by combining the peptides with other antimicrobial agents or antibiotics.

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Searched by: Mary Hale 308-4258 CM-1 1E01

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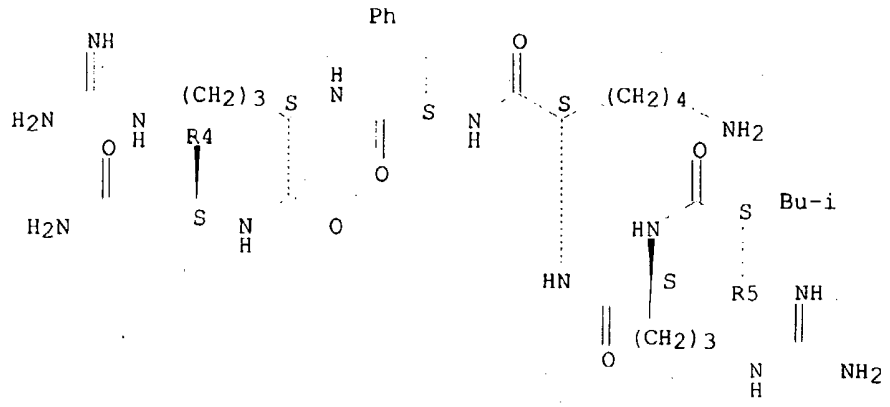

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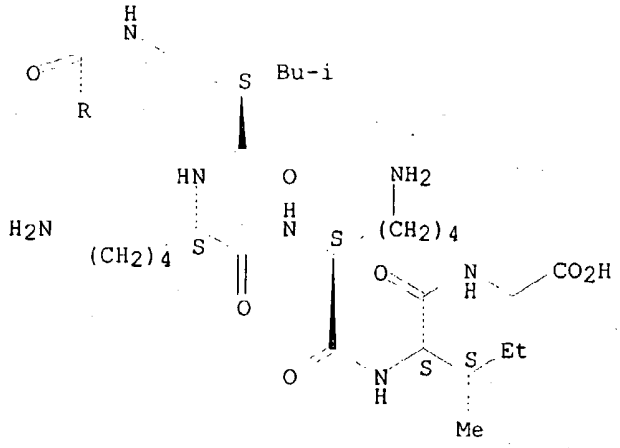

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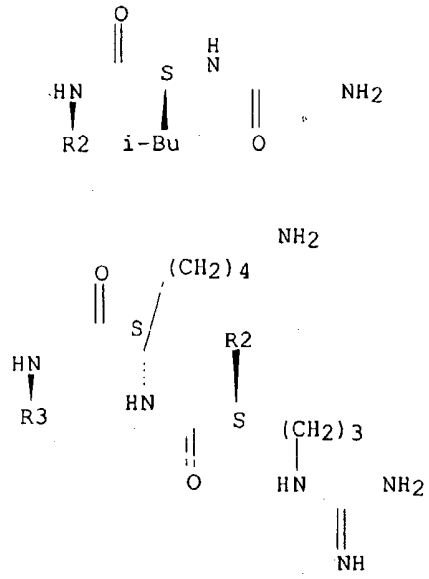

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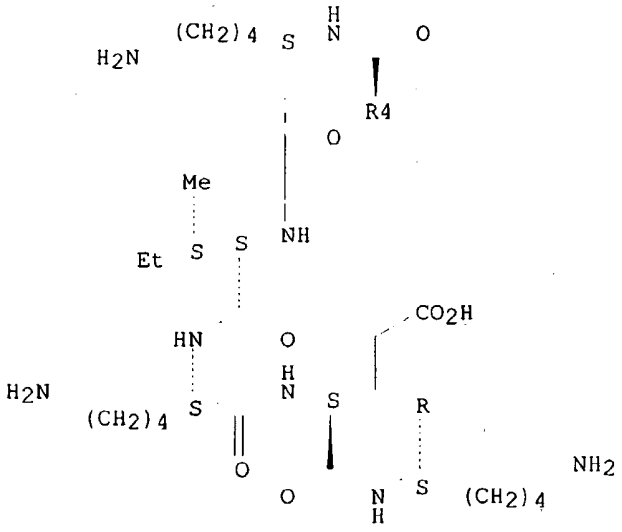

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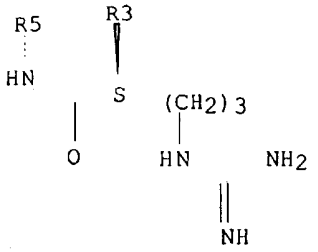

3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:216813 The ovine cathelicidin SMAP29 kills ovine respiratory pathogens in vitro and in an ovine model of pulmonary infection. Brogden, K. A.; Kalfa, V. C.; Ackermann, M. R.; Palmquist, D. E.; McCray, P. B., Jr.; Tack, B. F. (Respiratory Diseases of Livestock Research Unit, USDA Agricultural Research Service, National Animal Disease Center, Ames, IA, 50010, USA). Antimicrobial Agents and Chemotherapy, 45(1), 331-334 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

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REFERENCE 2: 134:188181 Cathelicidin-derived peptides with broad spectrum antimicrobial activity. Tack, Brian E.; McCray, Paul; Welsh, Michael; Travis, Sue M.; Lehrer, Robert (University of Iowa Research Foundation, USA; The Regents of the University of California). PCT Int. Appl. WO 2001012668 A1 20010222, 137 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US22781 20000818. PRIORITY: US 1999-PV149886 19990818.

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REFERENCE 3: 133:57515 Bactericidal activity of mammalian

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cathelicidin-derived peptides. Travis, Sue M.; Anderson, Norma N.; Forsyth, William R.; Espiritu, Cesar; Conway, Barbara D.; Greenberg, E. P.; McCray, Paul B., Jr.; Lehrer, Robert I.; Welsh, Michael J.; Tack, Brian F. (Department Internal Medicine, University of Iowa College of Medicine Iowa City, Iowa City, IA, 52242, USA). Infection and Immunity, 68(5), 2748-2755 (English) 2000. CODEN: INFIBR. ISSN: 0019-9567. Publisher: American Society for Microbiology.

AB Endogenous antimicrobial peptides of the cathelicidin family contribute to innate immunity. The emergence of widespread antibiotic resistance in many commonly encountered bacteria requires the search for new bactericidal agents with therapeutic potential. Solid-phase synthesis was employed to prep. linear antimicrobial peptides found in cathelicidins of five mammals: human (FALL39/LL37), rabbit (CAP18), mouse (mCRAMP), rat (rCRAMP), and sheep (SMAP29 and SMAP34). These peptides were tested at ionic strengths of 25 and 175 mM against Pseudomonas aeruginosa, Escherichia coli, Staphylococcus aureus, and methicillin-resistant Staphylococcus aureus. Each peptide manifested activity against P. aeruginosa irresp. of the NaCl concn. CAP18 and SMAP29 were the most effective peptides of the group against all test organisms under both low-and high-salt conditions. Select peptides of 15 to 21 residues, modeled on CAP18 (37 residues), retained activity against the gram-neg. bacteria and methicillin-sensitive S. aureus, although the bactericidal activity was reduced compared to that of the parent peptide. In accordance with the behavior of the parent mol., the truncated peptides adopted an .alpha.-helical structure in the presence of trifluoroethanol or lipopolysaccharide. The relation between the bactericidal activity and several physiochem. properties of the cathelicidins was examd. The activities of the full-length peptides correlated pos. with a predicted gradient of hydrophobicity along the peptide backbone and with net pos. charge; they correlated inversely with relative abundance of anionic residues. The salt-resistant, antimicrobial properties of CAP18 and SMAP29 suggest that these peptides or congeneric structures have potential for the treatment of bacterial infections in normal and immunocompromised persons and individuals with cystic fibrosis.

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E1          1      RKRLQVQSLIAT/SQEP
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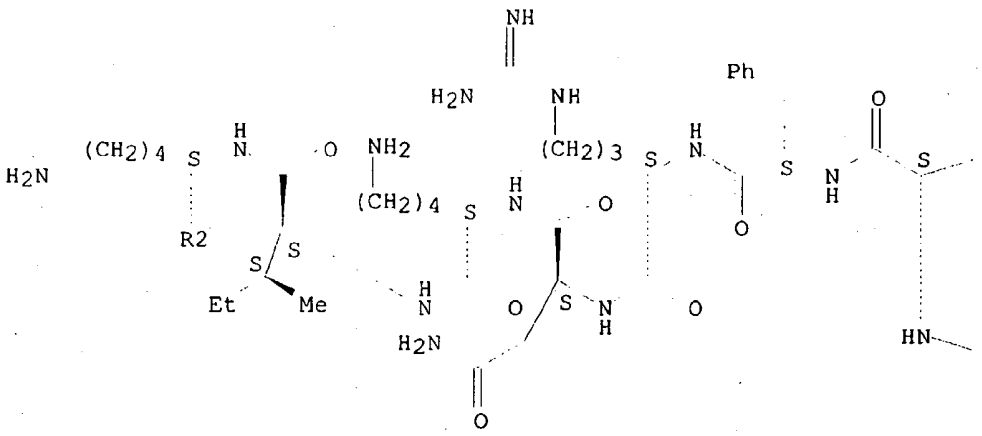

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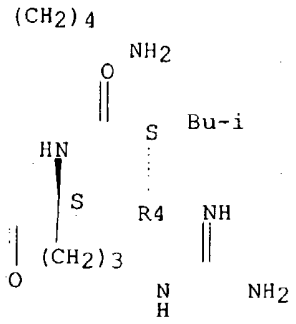

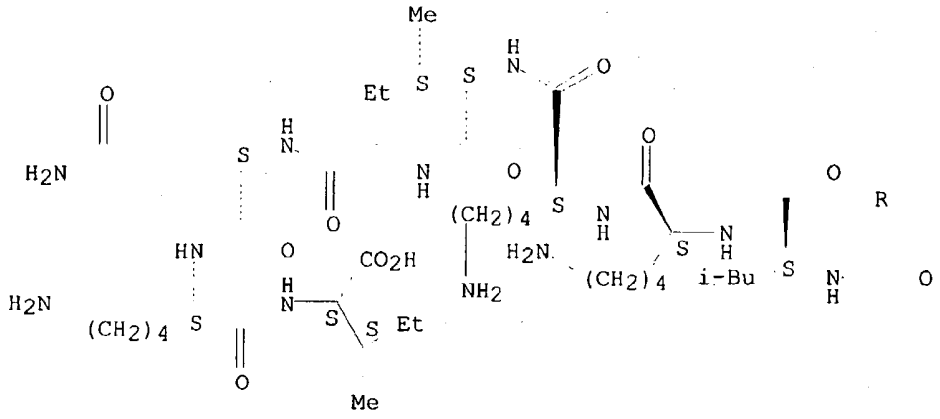

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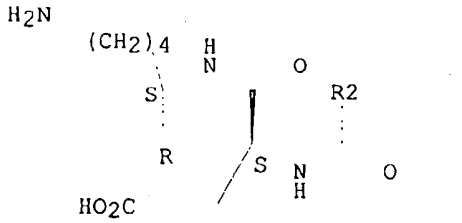

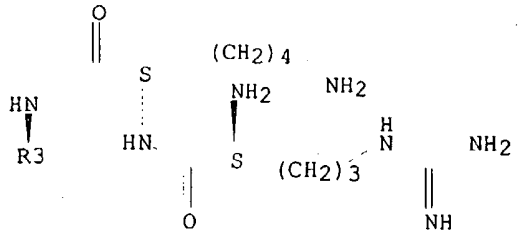

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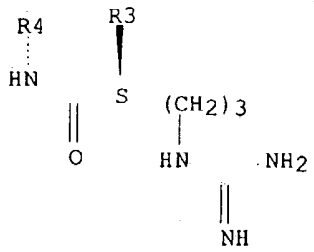

4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:2776 Cathelicidin peptides inhibit multiply antibiotic-resistant pathogens from patients with cystic fibrosis. Saiman, Lisa; Tabibi, Setareh; Starner, Timothy D.; San Gabriel, Pablo; Winokur, Patricia L.; Jia, Hong Peng; McCray, Paul B., Jr.; Tack, Brian F. (Department of Pediatrics, Columbia University, New York, NY, 10032, USA). Antimicrobial Agents and Chemotherapy, 45(10), 2838-2844 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

AB Endogenous peptide antibiotics are under investigation as inhaled therapeutic agents for cystic fibrosis (CF) lung disease. The bactericidal activities of five cathelicidin peptides (LL37 [human], CAP18 [rabbit], mCRAMP [mouse], rCRAMP [rat], and SMAP29 [sheep]), three novel alpha-helical peptides derived from SMAP29 and termed ovispirins (OV-1, OV-2, and OV-3), and two derivs. of CAP18 were tested by broth microdilution assays. Their MICs were detd. for multiply antibiotic-resistant Pseudomonas aeruginosa (n = 24), Burkholderia cepacia (n = 5), Achromobacter xylosoxidans (n = 5), and Stenotrophomonas maltophilia (n = 5) strains isolated from CF patients. SMAP29 was most active and inhibited mucoid and nonmucoid P. aeruginosa strains (MIC, 0.06

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to 8 .mu.g/mL). OV-1, OV-2, and OV-3 were nearly as active (MIC, 0.03 to 16 .mu.g/mL), but CAP18 (MIC, 1.0 to 32 .mu.g/mL), CAP18-18 (MIC, 1.0 to >32 .mu.g/mL), and CAP18-22 (MIC, 0.5 to 32 .mu.g/mL) had variable activities. LL37, mCRAMP, and rCRAMP were least active against the clin. isolates studied (MIC, 1.0 to >32 .mu.g/mL). Peptides had modest activities against S. maltophilia and A. xylosoxidans (MIC range, 1.0 to > 32 .mu.g/mL), but none inhibited B. cepacia. However, CF sputum inhibited the activity of SMAP29 substantially. The effects of peptides on bacterial cell membranes and eukaryotic cells were examd. by SEM and by measuring transepithelial cell resistance, resp. SMAP29 caused the appearance of bacterial membrane blebs within 1 min, killed P. aeruginosa within 1 h, and caused a dose-dependent, reversible decrease in transepithelial resistance within 5 h. The tested cathelicidin-derived peptides represent a novel class of antimicrobial agents and warrant further development as prophylactic or therapeutic agents for CF lung disease.

REFERENCE 2: 134:216813 The ovine cathelicidin SMAP29 kills ovine respiratory pathogens in vitro and in an ovine model of pulmonary infection. Brogden, K. A.; Kalfa, V. C.; Ackermann, M. R.; Palmquist, D. E.; McCray, P. B., Jr.; Tack, B. F. (Respiratory Diseases of Livestock Research Unit, USDA Agricultural Research Service, National Animal Disease Center, Ames, IA, 50010, USA). Antimicrobial Agents and Chemotherapy, 45(1), 331-334 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

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E11         1     RGLSASMTGARCDAALTLWLGLLLMNQVRIRYGLLIGYSQLKVGRLLRPTEKVMSGNGGN
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                  LTTKRLLTRSPNSQTAFPR/SQEP

=> s e3;d sqide cbib abs;dis his
      .       1 RGLRRLGRKIAHGVKKYGPTVLRIIRIA/SQEP
         22834 SQL=28
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Searched by: Mary Hale 308-4258 CM-1 1E01

L11 1 (RGLRRLGRKIAHGVKKYGPTVLRIIRIA)/SQEP
(RGLRRLGRKIAHGVKKYGPTVLRIIRIA/SQEP AND SQL=28)

L11 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS
RN 255817-49-3 REGISTRY
CN L-Alaninamide, L-arginylglycyl-L-leucyl-L-arginyl-L-arginyl-L-leucylglycyl-L-arginyl-L-lysyl-L-isoleucyl-L-alanyl-L-histidylglycyl-L-valyl-L-lysyl-L-lysyl-L-tyrosylglycyl-L-prolyl-L-threonyl-L-valyl-L-leucyl-L-arginyl-L-isoleucyl-L-isoleucyl-L-arginyl-L-isoleucyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 27: PN: WO0112668 SEQID: 27 claimed protein
CN SMAP 28
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 28
NTE modified

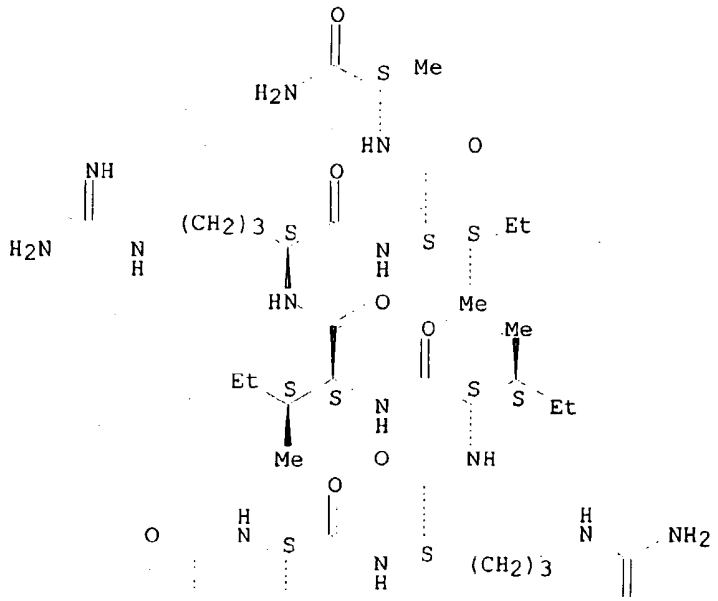
type	------ location ------		description
terminal mod.	Ala-28	-	C-terminal amide

SEQ 1 RGLRRLGRKI AHGVKKYGPT VLRIIRIA
========== ========== ========

HITS AT: 1-28
MF C144 H258 N52 O30
SR CA
LC STN Files: CA, CAPLUS

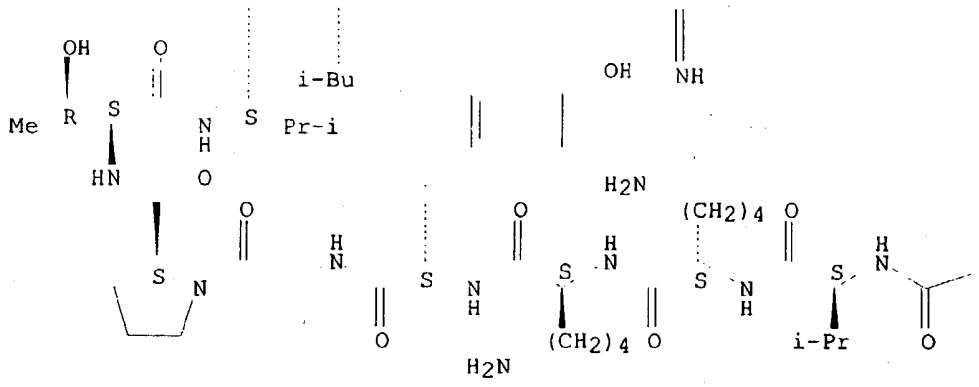
Absolute stereochemistry.

PAGE 1-A

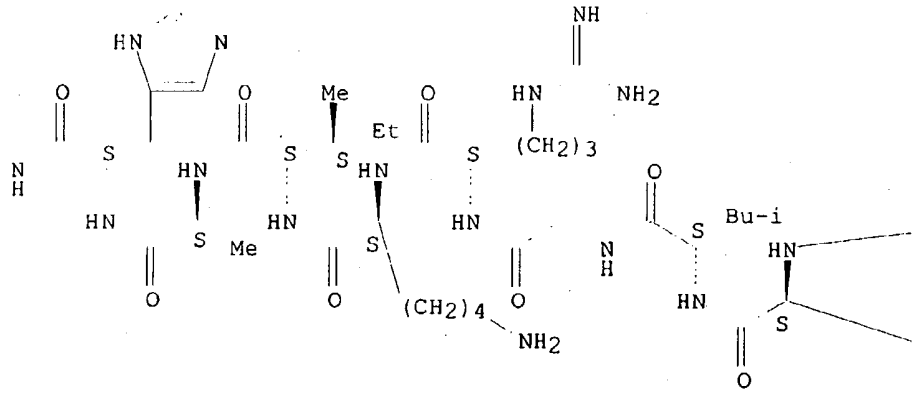


Searched by: Mary Hale 308-4258 CM-1 1E01

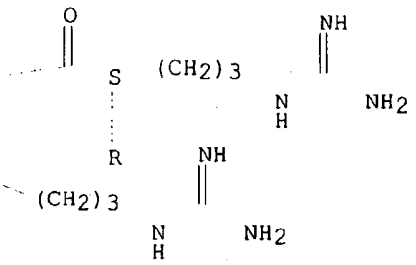
PAGE 2-A

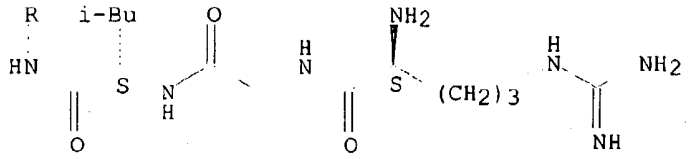


PAGE 2-B



Searched by: Mary Hale 308-4258 CM-1 1E01





3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:82518 Congeners of SMAP29 kill ovine pathogens and induce ultrastructural damage in bacterial cells. Kalfa, V. C.; Jia, H. P.; Kunkle, R. A.; McCray, P. B., Jr.; Tack, B. F.; Brogden, K. A. (Respiratory Diseases of Livestock Research Unit, National Animal Disease Center, USDA Agricultural Research Service, Ames, IA, 50010, USA). Antimicrobial Agents and Chemotherapy, 45(11), 3256-3261 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

AB SMAP29, an ovine cathelicidin, was systematically altered to create a family of 23 related peptides for MIC and min. bactericidal concn. detns. SMAP28, SMAP29, and a deriv. of SMAP29 called ovispirin were all antimicrobial. However, many congeners of SMAP29 and ovispirin were not as active as the parent mols. With immunoelectron microscopy, SMAP29 was seen on membranes and within the cytoplasm of Pseudomonas aeruginosa PA01.

REFERENCE 2: 134:188181 Cathelicidin-derived peptides with broad spectrum antimicrobial activity. Tack, Brian E.; McCray, Paul; Welsh, Michael; Travis, Sue M.; Lehrer, Robert (University of Iowa Research Foundation, USA; The Regents of the University of California). PCT Int. Appl. WO 2001012668 A1 20010222, 137 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO,

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NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US22781 20000818. PRIORITY: US 1999-PV149886 19990818.

AB The invention relates to the use of antimicrobial peptides in the inhibition of microbial growth and proliferation. Antimicrobial truncated peptides are disclosed which are based on SMAP 29 and RCAP 18, but which contain a lesser no. of amino acid residues yet still retain bactericidal activity. In addn., synthetic peptides based upon the SMAP 29 protein are disclosed which have fewer amino acid residues and include substitutions yet retain substantial activity. The invention also relates to a method of inhibiting microbial growth by administering an effective amt. of a peptide in accordance with the invention, or by combining the peptides with other antimicrobial agents or antibiotics.

REFERENCE 3: 132:106875 SMAP-29: a potent antibacterial and antifungal peptide from sheep leukocytes. Skerlavaj, B.; Benincasa, M.; Risso, A.; Zanetti, M.; Gennaro, R. (Dipartimento di Scienze e Tecnologie Biomediche, Universita di Udine, Udine, 33100, Italy). FEBS Letters, 463(1,2), 58-62 (English) 1999. CODEN: FEBLAL. ISSN: 0014-5793. Publisher: Elsevier Science B.V..

AB SMAP-29 is a cathelicidin-derived peptide deduced from sheep m
The C-terminally amidated form of this peptide was chem. synth
shown to exert a potent antimicrobial activity. Antibiotic-re
clin. isolates highly susceptible to this peptide include MRSA
isolates, that are a major worldwide problem, and mucoid Pseud
aeruginosa assocd. with chronic respiratory inflammation in CF
In addn., SMAP-29 is also active against fungi, including Cryp
neoformans isolated from immunocompromised patients. SMAP-29 c
significant morphol. alterations of the bacterial surfaces, as
SEM, and is also hemolytic against human, but not sheep erythro
potent antimicrobial activity suggests that this peptide is an
candidate as a lead compd. for the development of novel antiinf
agents.

(FILE 'HOME' ENTERED AT 08:51:59 ON 12 JUL 2002)

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L3	2	S	E3
		E	NLRRIIRKIIHIIKKY/SQEP
L4	2	S	E3
		E	LRRIIRKIIHIIKK/SQEP
L5	1	S	E2
		E	IRRIIRKIIHIIKK/SQEP
L6	2	S	E3
		E	LRRIIRKIIHIIK/SQEP
L7	1	S	E3
		E	RRIIRKIIHIIK/SQEP
L8	1	S	E3
		E	GLRKRLRKFRNKIKEKLKKIG/SQEP
L9	1	S	E3
		E	RKRLRKFRNKIKEKLKKIGQKI/SQEP
L10	1	S	E3

Searched by: Mary Hale 308-4258 CM-1 1E01

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                E RGLRRLGRKIAHGVKKYGPTVLRIIRIA/SQEP
L11           1 S E3

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l8 or l9 or l10 or l11) and (antimicrobial or antibacterial)
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                             183.32     186.26

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)    SINCE FILE      TOTAL
                                                   ENTRY    SESSION
CA SUBSCRIBER PRICE                              -8.26      -8.26

FILE 'MEDLINE' ENTERED AT 09:09:49 ON 12 JUL 2002

FILE 'HCAPLUS' ENTERED AT 09:09:49 ON 12 JUL 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'BIOSIS' ENTERED AT 09:09:49 ON 12 JUL 2002
COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC.(R)

FILE 'EMBASE' ENTERED AT 09:09:49 ON 12 JUL 2002
COPYRIGHT (C) 2002 Elsevier Science B.V.  All rights reserved.

FILE 'JICST-EPLUS' ENTERED AT 09:09:49 ON 12 JUL 2002
COPYRIGHT (C) 2002 Japan Science and Technology Corporation (JST)


L12           0 FILE MEDLINE
L13           8 FILE HCAPLUS
L14           0 FILE BIOSIS
L15           0 FILE EMBASE
L16           0 FILE JICST-EPLUS

TOTAL FOR ALL FILES
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                L11) AND (ANTIMICROBIAL OR ANTIBACTERIAL)

=> s l17 and (smap 209 or rcap 18)
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L20           0 FILE BIOSIS
L21           0 FILE EMBASE
L22           0 FILE JICST-EPLUS

TOTAL FOR ALL FILES
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L23  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2002 ACS
2001:137250   Document No. 134:188181  Cathelicidin-derived peptides with broad
     spectrum antimicrobial activity.  Tack, Brian E.; McCray, Paul;
     Welsh, Michael; Travis, Sue M.; Lehrer, Robert (University of Iowa
     Research Foundation, USA; The Regents of the University of California).
     PCT Int. Appl. WO 2001012668 A1 20010222, 137 pp.  DESIGNATED STATES: W:
     AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ,
     DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
     JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
     MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,


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TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US22781 20000818. PRIORITY: US 1999-PV149886 19990818.

AB The invention relates to the use of **antimicrobial** peptides in the inhibition of microbial growth and proliferation. **Antimicrobial** truncated peptides are disclosed which are based on SMAP 29 and **RCAP 18**, but which contain a lesser no. of amino acid residues yet still retain bactericidal activity. In addn., synthetic peptides based upon the SMAP 29 protein are disclosed which have fewer amino acid residues and include substitutions yet retain substantial activity. The invention also relates to a method of inhibiting microbial growth by administering an effective amt. of a peptide in accordance with the invention, or by combining the peptides with other **antimicrobial** agents or antibiotics.

```
=> s ((microbial growth and prolifer?) or (antimicrobial or microbial)(w)peptide?)
and (smap 29 or rcap 18)
L24           8 FILE MEDLINE
L25          12 FILE HCAPLUS
L26           5 FILE BIOSIS
L27           6 FILE EMBASE
L28           0 FILE JICST-EPLUS

TOTAL FOR ALL FILES
L29          31 ((MICROBIAL GROWTH AND PROLIFER?) OR (ANTIMICROBIAL OR MICROBIAL
                )(W) PEPTIDE?) AND (SMAP 29 OR RCAP 18)

=> s l29 and (antimicrobial agent? or antibiotic?)
L30           1 FILE MEDLINE
L31           7 FILE HCAPLUS
L32           1 FILE BIOSIS
L33           2 FILE EMBASE
L34           0 FILE JICST-EPLUS

TOTAL FOR ALL FILES
L35          11 L29 AND (ANTIMICROBIAL AGENT? OR ANTIBIOTIC?)

=> s l35 and (pharmaceutical or alpha helical peptide!)
L36           0 FILE MEDLINE
L37           0 FILE HCAPLUS
L38           0 FILE BIOSIS
L39           0 FILE EMBASE
L40           0 FILE JICST-EPLUS

TOTAL FOR ALL FILES
L41           0 L35 AND (PHARMACEUTICAL OR ALPHA HELICAL PEPTIDE!)

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PROCESSING COMPLETED FOR L35
L42           8 DUP REM L35 (3 DUPLICATES REMOVED)

=> d cbib abs 1-8;s tack, b?/au,in;s mccray, p?/au,in;s welsh, m?/au,in;s lehrer,
r?/au,in

L42 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2002 ACS
2002:177892 Document No. 136:275091 SMAP-29 has two
     LPS-binding sites and a central hinge. Tack, Brian F.; Sawai, Monali V.;
     Kearney, William R.; Robertson, Andrew D.; Sherman, Mark A.; Wang, Wei;
     Hong, Teresa; Boo, Lee Ming; Wu, Huiyuan; Waring, Alan J.; Lehrer, Robert
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Searched by: Mary Hale 308-4258 CM-1 1E01

I. (Department of Microbiology, University of Iowa, IA, USA). European Journal of Biochemistry, 269(4), 1181-1189 (English) 2002. CODEN: EJBCAI. ISSN: 0014-2956. Publisher: Blackwell Publishing Ltd..

AB The CD spectra of **SMAP-29**, an **antimicrobial peptide** from sheep, showed disordered structure in aq. buffers, and significant helicity in membrane-like environments, including SDS micelles, lipopolysaccharide (LPS) dispersions, and trifluoroethanol buffer systems. A structure detd. by NMR in 40% perdeuterated trifluoroethanol indicated that residues 8-17 were helical, residues 18-19 formed a hinge, and residues 20-28 formed an ordered, hydrophobic segment. **SMAP-29** was flexible in 40% trifluoroethanol, forming two sets of conformers that differed in the relative orientation of the N-terminal domain. We used a chromogenic Limulus assay to det. the EC50 of the peptide (the concn. that bound 50% of the added LPS). Studies with full-length and truncated **SMAP-29** mols. revealed that each end of the holopeptide contained an LPS-binding domain. The higher affinity LPS-binding domain was situated in the flexible N-terminal portion. LPS binding to full-length **SMAP-29** showed pos. cooperativity, so the EC50 of the peptide (2.6 .mu.M) was considerably lower than that of the individual LPS-binding domains. LPS-binding studies with a mixt. of truncated peptides revealed that this cooperativity was primarily intramol. (i.e. involving the N- and C-terminal LPS-binding sites of the same peptide mol.). CAP-18[106-142], an antimicrobial cathelicidin peptide of rabbits, resembled **SMAP -29** in that it contained N- and C-terminal LPS-binding domains, had an EC50 of 2.5 .mu.M, and bound LPS with pos. cooperativity. We conclude that the presence of multiple binding sites that function cooperatively allow peptides such as **SMAP-29** and CAP-18 to bind LPS with high affinity.

L42 ANSWER 2 OF 8 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.

2002172163 EMBASE Cathelicidin peptides as candidates for a novel class of antimicrobials. Zanetti M.; Gennaro R.; Skerlavaj B.; Tomasinsig L.; Circo R.. M. Zanetti, Dipt. di Scienze Technologie Biomed., Universita di Udine, P.le Kolbe 4, 33100 Udine, Italy. zanetti@icgeb.trieste.it. Current Pharmaceutical Design 8/9 (779-793) 2002.
Refs: 135.
ISSN: 1381-6128. CODEN: CPDEFP. Pub. Country: Netherlands. Language: English. Summary Language: English.

AB Cathelicidin peptides are a numerous group of mammalian cationic **antimicrobial peptides**. Despite a common evolutionary origin of their genes, peptides display a remarkable variety of sizes, sequences and structures. Their spectra of antimicrobial activity are varied and cover a range of organisms that includes bacteria, fungi and enveloped viruses. In addition, they bind to and neutralize the effects of endotoxin. These features make this family of peptides good candidates in view of a therapeutic use. The most promising ones are currently under evaluation as leads for the development of novel anti-infectives, and synthetic variants are in an advanced stage of development for specific clinical applications. This review focuses on recent studies on the structure and in vitro and in vivo biological activities of these peptides.

L42 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2002 ACS

2001:137250 Document No. 134:188181 Cathelicidin-derived peptides with broad spectrum antimicrobial activity. Tack, Brian E.; McCray, Paul; Welsh, Michael; Travis, Sue M.; Lehrer, Robert (University of Iowa Research Foundation, USA; The Regents of the University of California). PCT Int. Appl. WO 2001012668 A1 20010222, 137 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,

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MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US22781 20000818. PRIORITY: US 1999-PV149886 19990818.

AB The invention relates to the use of **antimicrobial peptides** in the inhibition of **microbial growth** and **proliferation**. Antimicrobial truncated peptides are disclosed which are based on **SMAP 29** and **RCAP 18**, but which contain a lesser no. of amino acid residues yet still retain bactericidal activity. In addn., synthetic peptides based upon the **SMAP 29** protein are disclosed which have fewer amino acid residues and include substitutions yet retain substantial activity. The invention also relates to a method of inhibiting **microbial growth** by administering an effective amt. of a peptide in accordance with the invention, or by combining the peptides with other **antimicrobial agents** or **antibiotics**

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L42 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2002 ACS

2001:799056 Document No. 136:68577 Susceptibilities of oral bacteria and yeast to mammalian cathelicidins. Guthmiller, Janet M.; Vargas, Kaaren G.; Srikantha, Rupasree; Schomberg, Lori L.; Weistroffer, Paula L.; McCray, Paul B., Jr.; Tack, Brian F. (Department of Periodontics and Dows Institute for Dental Research, College of Medicine, University of Iowa, Iowa City, IA, 52242, USA). Antimicrobial Agents and Chemotherapy, 45(11), 3216-3219 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.

AB The effects of cathelicidins against oral bacteria and clin. important oral yeasts are not known. We tested the susceptibilities of Actinobacillus actinomycetemcomitans, Fusobacterium nucleatum, Porphyromonas gingivalis, Streptococcus sanguis, Candida krusei, Candida tropicalis and Candida albicans to the following cathelicidins: FALL39, SMAP29, and CAP18. SMAP29 and CAP18 were antimicrobial, whereas FALL39 did not exhibit antimicrobial activity. Future studies are needed to det. the potential use of these **antimicrobial peptides** in prevention and treatment of oral infections.

L42 ANSWER 5 OF 8 MEDLINE DUPLICATE 1

2001420242 Document Number: 21361089. PubMed ID: 11467858. Structure-activity analysis of **SMAP-29**, a sheep leukocytes-derived **antimicrobial peptide**. Shin S Y; Park E J; Yang S T; Jung H J; Eom S H; Song W K; Kim Y; Hahm K S; Kim J I. (Department of Life Science, Kwangju Institute of Science and Technology, Kwangju, 500-712, Korea.) BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (2001 Jul 27) 285 (4) 1046-51. Journal code: 0372516. ISSN: 0006-291X. Pub. country: United States. Language: English.

AB SAMP-29 is a cathelecidin-derived **antimicrobial peptide** deduced from sheep myeloid mRNA. To elucidate the structural-activity relationship of **SMAP-29**, several analogues were synthesized and their **antibiotic** activity was investigated. Compared to parental **SMAP-29**, **SMAP-29**(1-17) and [K(22,25,27)]-**SMAP-29** retained relatively effective antimicrobial activity (MIC: 1.0-8.0 microM), but resulted in a complete loss of hemolytic activity. Pro-19 --> Ala substitution ([A19]-**SMAP-29**) in **SMAP-29** induced a significant reduction in antibacterial activity. These results suggested that the N-terminal amphipathic alpha-helical region and the C-terminal hydrophobic region of **SMAP-29** are responsible for antimicrobial activity and hemolytic activity, respectively, and the central Pro-19 in **SMAP-29** plays

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a critical role in showing improved antibacterial activity. In particular, [K(2,7,13)]-**SMAP-29**(1-17) showed potent antimicrobial activity under high salt conditions without hemolytic activity. Thus, this short peptide could serve as an attractive candidate for the development of therapeutic antimicrobial drugs. Structural analysis by circular dichroism suggested that **SMAP-29** seems to adopt a helix-bend/turn-extended random conformation.
Copyright 2001 Academic Press.

L42 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2002 ACS
2001:15541 Document No. 134:216813 The ovine cathelicidin SMAP29 kills ovine respiratory pathogens in vitro and in an ovine model of pulmonary infection. Brogden, K. A.; Kalfa, V. C.; Ackermann, M. R.; Palmquist, D. E.; McCray, P. B., Jr.; Tack, B. F. (Respiratory Diseases of Livestock Research Unit, USDA Agricultural Research Service, National Animal Disease Center, Ames, IA, 50010, USA). Antimicrobial Agents and Chemotherapy, 45(1), 331-334 (English) 2001. CODEN: AMACCQ. ISSN: 0066-4804. Publisher: American Society for Microbiology.
AB Cathelicidins are **antimicrobial peptides** from sheep (SMAP29 and SMAP34), rabbits (CAP11 and CAP18), rodents (CRAMP), and humans (FALL39, LL37, and h/CAP18). In a broth microdilution assay against nine ovine pathogens, SMAP29, SMAP34, mouse CRAMP, CAP18, CAP1831, CAP1828, CAP1822, and CAP1821a were the most active, with MICs as low as 0.6 .mu.g/mL. Other cathelicidins were less active. In lambs with pneumonia, 0.5 mg of SMAP29 reduced the concn. of bacteria in both bronchoalveolar lavage fluid and consolidated pulmonary tissues. Hence, the antimicrobial activity of SMAP29 suggests that it has applications in the treatment of respiratory tract infections.

L42 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2002 ACS
2000:282566 Document No. 133:57515 Bactericidal activity of mammalian cathelicidin-derived peptides. Travis, Sue M.; Anderson, Norma N.; Forsyth, William R.; Espiritu, Cesar; Conway, Barbara D.; Greenberg, E. P.; McCray, Paul B., Jr.; Lehrer, Robert I.; Welsh, Michael J.; Tack, Brian F. (Department Internal Medicine, University of Iowa College of Medicine Iowa City, Iowa City, IA, 52242, USA). Infection and Immunity, 68(5), 2748-2755 (English) 2000. CODEN: INFIBR. ISSN: 0019-9567. Publisher: American Society for Microbiology.
AB Endogenous **antimicrobial peptides** of the cathelicidin family contribute to innate immunity. The emergence of widespread **antibiotic** resistance in many commonly encountered bacteria requires the search for new bactericidal agents with therapeutic potential. Solid-phase synthesis was employed to prep. linear **antimicrobial peptides** found in cathelicidins of five mammals: human (FALL39/LL37), rabbit (CAP18), mouse (mCRAMP), rat (rCRAMP), and sheep (SMAP29 and SMAP34). These peptides were tested at ionic strengths of 25 and 175 mM against Pseudomonas aeruginosa, Escherichia coli, Staphylococcus aureus, and methicillin-resistant Staphylococcus aureus. Each peptide manifested activity against P. aeruginosa irresp. of the NaCl concn. CAP18 and SMAP29 were the most effective peptides of the group against all test organisms under both low-and high-salt conditions. Select peptides of 15 to 21 residues, modeled on CAP18 (37 residues), retained activity against the gram-neg. bacteria and methicillin-sensitive S. aureus, although the bactericidal activity was reduced compared to that of the parent peptide. In accordance with the behavior of the parent mol., the truncated peptides adopted an .alpha.-helical structure in the presence of trifluoroethanol or lipopolysaccharide. The relation between the bactericidal activity and several physiochem. properties of the cathelicidins was examd. The activities of the full-length peptides correlated pos. with a predicted gradient of hydrophobicity along the peptide backbone and with net pos. charge; they correlated inversely with relative abundance of anionic

residues. The salt-resistant, antimicrobial properties of CAP18 and SMAP29 suggest that these peptides or congeneric structures have potential for the treatment of bacterial infections in normal and immunocompromised persons and individuals with cystic fibrosis.

L42 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2002 ACS
1998:597848 Document No. 130:2113 Biological activity of a novel, cathelicidin-derived **antimicrobial peptide** from sheep.
Merluzzi, Laura; Scocchi, Marco; Zanetti, Margherita; Bagella, Luigi; Gennaro, Renato (Department of Biomedical Science and Technology, University of Udine, Udine, I-33100, Italy). Peptides 1996, Proceedings of the European Peptide Symposium, 24th, Edinburgh, Sept. 8-13, 1996, Meeting Date 1996, 639-640. Editor(s): Ramage, Robert; Epton, Roger. Mayflower Scientific: Kingswinford, UK. (English) 1998. CODEN: 66RCA5.
AB **SMAP-29** was identified in sheep by RT-PCR-based search for the cDNA of cathelicidin homologs. It structure suggested the **SMAP-29** may possess antimicrobial activity. In vitro tests showed that **SMAP-29** is a highly potent membrane-active peptide. Its broad spectrum of activity, which includes fungi and methicillin-resistant Staphylococcus aureus strains, makes **SMAP-29** a good candidate as a drug lead for the development of novel **antibiotic** compds.

'IN' IS NOT A VALID FIELD CODE
L43 94 FILE MEDLINE
L44 90 FILE HCAPLUS
L45 139 FILE BIOSIS
'IN' IS NOT A VALID FIELD CODE
L46 78 FILE EMBASE
L47 0 FILE JICST-EPLUS

TOTAL FOR ALL FILES
L48 401 TACK, B?/AU,IN

'IN' IS NOT A VALID FIELD CODE
L49 80 FILE MEDLINE
L50 72 FILE HCAPLUS
L51 82 FILE BIOSIS
'IN' IS NOT A VALID FIELD CODE
L52 44 FILE EMBASE
L53 0 FILE JICST-EPLUS

TOTAL FOR ALL FILES
L54 278 MCCRAY, P?/AU,IN

'IN' IS NOT A VALID FIELD CODE
L55 533 FILE MEDLINE
L56 467 FILE HCAPLUS
L57 847 FILE BIOSIS
'IN' IS NOT A VALID FIELD CODE
L58 479 FILE EMBASE
L59 1 FILE JICST-EPLUS

TOTAL FOR ALL FILES
L60 2327 WELSH, M?/AU,IN

'IN' IS NOT A VALID FIELD CODE

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L61         211 FILE MEDLINE
L62         246 FILE HCAPLUS
L63         319 FILE BIOSIS
'IN' IS NOT A VALID FIELD CODE
L64         170 FILE EMBASE
L65           0 FILE JICST-EPLUS

TOTAL FOR ALL FILES
L66         946 LEHRER, R?/AU,IN

=> s l48 and l54 and l60 and l66
L67           1 FILE MEDLINE
L68           2 FILE HCAPLUS
L69           1 FILE BIOSIS
L70           1 FILE EMBASE
L71           0 FILE JICST-EPLUS

TOTAL FOR ALL FILES
L72           5 L48 AND L54 AND L60 AND L66

=> dup rem l72
PROCESSING COMPLETED FOR L72
L73           2 DUP REM L72 (3 DUPLICATES REMOVED)

=> d cbib abs 1-2

L73  ANSWER 1 OF 2  HCAPLUS  COPYRIGHT 2002 ACS
2001:137250  Document No. 134:188181  Cathelicidin-derived peptides with broad
     spectrum antimicrobial activity. Tack, Brian E.; McCray, Paul;
     Welsh, Michael; Travis, Sue M.; Lehrer, Robert (University of Iowa
     Research Foundation, USA; The Regents of the University of California).
     PCT Int. Appl. WO 2001012668 A1 20010222, 137 pp. DESIGNATED STATES: W:
     AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ,
     DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
     JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
     MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
     TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM;
     RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB,
     GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.  (English).
     CODEN: PIXXD2.  APPLICATION: WO 2000-US22781 20000818.  PRIORITY: US
     1999-PV149886 19990818.
AB   The invention relates to the use of antimicrobial peptides in the
     inhibition of microbial growth and proliferation. Antimicrobial truncated
     peptides are disclosed which are based on SMAP 29 and RCAP 18, but which
     contain a lesser no. of amino acid residues yet still retain bactericidal
     activity. In addn., synthetic peptides based upon the SMAP 29 protein are
     disclosed which have fewer amino acid residues and include substitutions
     yet retain substantial activity. The invention also relates to a method
     of inhibiting microbial growth by administering an effective amt. of a
     peptide in accordance with the invention, or by combining the peptides
     with other antimicrobial agents or antibiotics.

L73  ANSWER 2 OF 2     MEDLINE                                  DUPLICATE 1
2000231814  Document Number: 20231814.     PubMed ID: 10768969.   Bactericidal
     activity of mammalian cathelicidin-derived peptides. Travis S M; Anderson
     N N; Forsyth W R; Espiritu C; Conway B D; Greenberg E P; McCray P B
     Jr; Lehrer R I; Welsh M J; Tack B F.
     (Department of Internal Medicine, University of Iowa College of Medicine
     Iowa City, Iowa 52242, USA. ) INFECTION AND IMMUNITY, (2000 May) 68 (5)
     2748-55. Journal code: 0246127. ISSN: 0019-9567. Pub. country: United
     States. Language: English.
AB   Endogenous antimicrobial peptides of the cathelicidin family contribute to
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innate immunity. The emergence of widespread antibiotic resistance in many commonly encountered bacteria requires the search for new bactericidal agents with therapeutic potential. Solid-phase synthesis was employed to prepare linear antimicrobial peptides found in cathelicidins of five mammals: human (FALL39/LL37), rabbit (CAP18), mouse (mCRAMP), rat (rCRAMP), and sheep (SMAP29 and SMAP34). These peptides were tested at ionic strengths of 25 and 175 mM against Pseudomonas aeruginosa, Escherichia coli, Staphylococcus aureus, and methicillin-resistant Staphylococcus aureus. Each peptide manifested activity against P. aeruginosa irrespective of the NaCl concentration. CAP18 and SMAP29 were the most effective peptides of the group against all test organisms under both low- and high-salt conditions. Select peptides of 15 to 21 residues, modeled on CAP18 (37 residues), retained activity against the gram-negative bacteria and methicillin-sensitive S. aureus, although the bactericidal activity was reduced compared to that of the parent peptide. In accordance with the behavior of the parent molecule, the truncated peptides adopted an alpha-helical structure in the presence of trifluoroethanol or lipopolysaccharide. The relationship between the bactericidal activity and several physiochemical properties of the cathelicidins was examined. The activities of the full-length peptides correlated positively with a predicted gradient of hydrophobicity along the peptide backbone and with net positive charge; they correlated inversely with relative abundance of anionic residues. The salt-resistant, antimicrobial properties of CAP18 and SMAP29 suggest that these peptides or congeneric structures have potential for the treatment of bacterial infections in normal and immunocompromised persons and individuals with cystic fibrosis.

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	27.26	213.52

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-4.96	-13.22

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